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EXAMINER

MARCHESCHI, MICHAEL A

ART UNIT PAPER NUMBER

1755

DATE MAILED: 01/28/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/619,901

Applicant(s)

SMALL ET AL.

Examiner

Michael A Marcheschi

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-31 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-31 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                        | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)               | Paper No(s)/Mail Date. ____   |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>9/8/03</u> .  | 6) <input type="checkbox"/> Other: ____                                     |

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The disclosure is objected to because of the following informalities:

Specification is objected to as to section [0001] because one can not incorporate appendices into the specification because the appendices do not form part of the published specification (not published along with the specification), thus one reading the published version would not know what applicants are referring to. This is not a proper "incorporation by reference". Since this is an improper incorporation, this section should be **canceled**.

Specification is also objected to as to section [0035], [0038] and [0039] because one can not incorporate appendices into the specification because the appendices do not form part of the published specification (not published along with the specification), thus one reading the published version would not know what applicants are referring to. This is not a proper "incorporation by reference". Since this is an improper incorporation, reference to any appendices should be **canceled**.

Appropriate correction is required.

Claims 14 and 25 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 14 and 25 are indefinite as to the limitations thereof because the examiner is unclear as to what the claimed limitations encompasses, thus rendering the scope of the claims unclear. What are the ionic species? Do these limitations mean that the slurry contains ions from **additional** components that are present in the slurry. If so, this should be clearly defined

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(i.e. **further** comprising...). These claims should be rewritten to clearly define what is intended to be claimed.

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-7, 12-18 and 23-27 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over EP 1 138 733.

The EP reference teaches in the abstract, sections [0033]-[0063] and the claims, a polishing composition (having the claimed pH) for polishing a substrate having a metal feature thereon, said composition comprising an aqueous solution, a polymeric abrasives (polymethyl

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methacrylate, etc.) and an oxidizing agent (peroxide, nitric acid, etc.). Other components can be added. The polymeric abrasives have a zeta potential of the same sign.

The claimed invention is anticipated by the reference because the reference teaches a composition which comprises all of the claimed components. With respect to the repulsive force limitation of the instant claims, since the polymer particles are dispersed (not agglomerated) and have the same sign in the composition, it is the examiners position that the claimed repulsive force limitation is inherent (apparent) because the particles of the reference are not agglomerated but dispersed. With respect to the "ionic species" limitation, the components of the composition inherently provide this limitation. With respect to the limitations of claims 4 and 17, it is the examiners position that one of the claimed functionalities is an inherent property of the polymeric particles of the reference absent evidence to the contrary. In the alternative, no patentable distinction is seen to exist between the reference and the claimed invention absent evidence to the contrary.

Claims 4, 8-11, 17 and 19-22 are rejected under 35 U.S.C. 103(a) as obvious over EP 1 138 733 in view of Small et al. (039) or Small et al. (024).

Small et al. (039) teaches in claim 1, that hydroxylamine nitrate is a known oxidizing agent.

Small et al. (024) teaches in section [0050], that hydroxylamine nitrate is a known oxidizing agent.

With respect to the limitations of claims 4 and 17, it is the examiners position that the polymers defined by the primary reference can include polymers that have a functionality

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selected from the claimed groups absent evidence to the contrary. In addition, the primary reference states that polymers particles are used and the broad interpretation of this encompasses and therefore makes obvious ones with the claimed functionality because **"A generic disclosure renders a claimed species prima facie obvious. *Ex parte George* 21 USPQ 2d 1057, 1060 (BPAI 1991); *In re Woodruff* 16 USPQ 2d 1934; *Merk & Co. v. Biocraft Lab. Inc.* 10 USPQ 2d 1843 (Fed. Cir. 1983); *In re Susi* 169 USPQ 423 (CCPA 1971)".** With respect to the use of hydroxylamine nitrate, as the oxidizer (claims 8 and 19), this limitation would have been obvious because both Small et al. references teach that this is a well known oxidizing agent and the substitution of one oxidizer for another would have been well within the level of ordinary skill in the art. In addition, the primary reference states that the oxidizer is a nitric compound and the broad interpretation of this encompasses and therefore makes obvious hydroxylamine nitrate because **"A generic disclosure renders a claimed species prima facie obvious. *Ex parte George* 21 USPQ 2d 1057, 1060 (BPAI 1991); *In re Woodruff* 16 USPQ 2d 1934; *Merk & Co. v. Biocraft Lab. Inc.* 10 USPQ 2d 1843 (Fed. Cir. 1983); *In re Susi* 169 USPQ 423 (CCPA 1971)".** With respect to the combination of oxidizers (claims 9 and 20), it is prima facie obvious to combine two or more materials (oxidizers) disclosed by the prior art to form a third material (combination of oxidizers) that is to be used for the same purpose. *In re Kerkhoven* 205 USPQ 1069. With respect to the limitations of claims 10, 11, 21 and 22 (zeta potential), although the reference does not literally define this, this does not preclude the material of the reference from having the claimed values since all compositions (with solids) must have a zeta potential. It is therefore the examiners position that since the reference fails to mention any specific zeta potential (criticality), this (the absence of any such limitations) constitutes a broad teaching of

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this value, as long as the final composition is obtained. In view of this, it can be reasonably interpreted that the claimed values are encompassed by the broad teachings according to this reference in the absence of any evidence showing the contrary (criticality). In addition, since the zeta potential of the particles can mostly be negative, it can be reasonably expected that the zeta potential of the composition (with particles therein) can also be negative which is within the applicants range.

Claims 1-7, 9, 12-18, 20 and 23-27 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over EP 1 036 836.

The EP reference teaches in the abstract, sections [0038]-[0061], [0074] and [0116], a polishing composition (having the claimed pH) for polishing a substrate having a metal feature thereon, said composition comprising an aqueous solution, a polymeric abrasives (polymethyl methacrylate, etc.) and an oxidizing agent (peroxide, nitric acid, etc.). Two or more oxidizers can be used. Other components can be added. The polymeric abrasives have a zeta potential of the same sign and the claimed functionality.

The claimed invention is anticipated by the reference because the reference teaches a composition which comprises all of the claimed components. With respect to the repulsive force limitation of the instant claims, since the polymer particles are dispersed (not agglomerated) and have the same sign in the composition, it is the examiners position that the claimed repulsive force limitation is inherent (apparent) because the particles of the reference are not agglomerated but dispersed. With respect to the "ionic species" limitation, the components of the composition

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inherently provide this limitation. In the alternative, no patentable distinction is seen to exist between the reference and the claimed invention absent evidence to the contrary.

Claims 8, 10, 11, 19, 21 and 22 are rejected under 35 U.S.C. 103(a) as obvious over EP 1 036 836 in view of Small et al. (039) or Small et al. (024).

With respect to the use of hydroxylamine nitrate, as the oxidizer (claims 8 and 19), this limitation would have been obvious because both Small et al. references teach that this is a well known oxidizing agent and the substitution of one oxidizer for another would have been well within the level of ordinary skill in the art. In addition, the primary reference states that the oxidizer is a nitric compound and the broad interpretation of this encompasses and therefore makes obvious hydroxylamine nitrate because **"A generic disclosure renders a claimed species prima facie obvious. *Ex parte George* 21 USPQ 2d 1057, 1060 (BPAI 1991); *In re Woodruff* 16 USPQ 2d 1934; *Merk & Co. v. Biocraft Lab. Inc.* 10 USPQ 2d 1843 (Fed. Cir. 1983); *In re Susi* 169 USPQ 423 (CCPA 1971)".** With respect to the limitations of claims 10, 11, 21 and 22 (zeta potential), although the reference does not literally define this, this does not preclude the material of the reference from having the claimed values since all compositions (with solids) must have a zeta potential. It is therefore the examiners position that since the reference fails to mention any specific zeta potential (criticality), this (the absence of any such limitations) constitutes a broad teaching of this value, as long as the final composition is obtained. In view of this, it can be reasonably interpreted that the claimed values are encompassed by the broad teachings according to this reference in the absence of any evidence showing the contrary (criticality). In addition, since the zeta potential of the particles can mostly be negative, it can be



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reasonably expected that the zeta potential of the composition (with particles therein) can also be negative which is within the applicants range.

Claims 1-7, 12-18 and 23-27 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Motonari et al.

The reference teaches in sections [0048]-[0074], a polishing composition (having the claimed pH) for polishing a substrate having a metal feature thereon, said composition comprising an aqueous solution, a polymeric abrasives (polymethyl methacrylate, etc.) and an oxidizing agent (peroxide, nitric acid, etc.). Other components can be added. The polymeric abrasives have a zeta potential of the same sign.

The claimed invention is anticipated by the reference because the reference teaches a composition which comprises all of the claimed components. With respect to the repulsive force limitation of the instant claims, since the polymer particles are dispersed (not agglomerated) and have the same sign in the composition, it is the examiners position that the claimed repulsive force limitation is inherent (apparent) because the particles of the reference are not agglomerated but dispersed. With respect to the "ionic species" limitation, the components of the composition inherently provide this limitation. With respect to the limitations of claims 4 and 17, it is the examiners position that one of the claimed functionalities is an inherent property of the polymeric particles of the reference absent evidence to the contrary. In the alternative, no patentable distinction is seen to exist between the reference and the claimed invention absent evidence to the contrary.

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Claims 4, 8-11, 17 and 19-22 are rejected under 35 U.S.C. 103(a) as obvious over Motonari et al. in view of Small et al. (039) or Small et al. (024).

With respect to the limitations of claims 4 and 17, it is the examiners position that the polymers defined by the primary reference can include polymers that have a functionality selected from the claimed groups absent evidence to the contrary. In addition, the primary reference states that polymers particles are used and the broad interpretation of this encompasses and therefore makes obvious ones with the claimed functionality because **"A generic disclosure renders a claimed species prima facie obvious. *Ex parte George* 21 USPQ 2d 1057, 1060 (BPAI 1991); *In re Woodruff* 16 USPQ 2d 1934; *Merk & Co. v. Biocraft Lab. Inc.* 10 USPQ 2d 1843 (Fed. Cir. 1983); *In re Susi* 169 USPQ 423 (CCPA 1971)".** With respect to the use of hydroxylamine nitrate, as the oxidizer (claims 8 and 19), this limitation would have been obvious because both Small et al. references teach that this is a well known oxidizing agent and the substitution of one oxidizer for another would have been well within the level of ordinary skill in the art. In addition, the primary reference states that the oxidizer is a nitric compound and the broad interpretation of this encompasses and therefore makes obvious hydroxylamine nitrate because **"A generic disclosure renders a claimed species prima facie obvious. *Ex parte George* 21 USPQ 2d 1057, 1060 (BPAI 1991); *In re Woodruff* 16 USPQ 2d 1934; *Merk & Co. v. Biocraft Lab. Inc.* 10 USPQ 2d 1843 (Fed. Cir. 1983); *In re Susi* 169 USPQ 423 (CCPA 1971)".** With respect to the combination of oxidizers (claims 9 and 20), it is prima facie obvious to combine two or more materials (oxidizers) disclosed by the prior art to form a third material (combination of oxidizers) that is to be used for the same purpose. *In re Kerkhoven* 205 USPQ 1069. With respect to the limitations of claims 10, 11, 21 and 22 (zeta potential), although the

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reference does not literally define this, this does not preclude the material of the reference from having the claimed values since all compositions (with solids) must have a zeta potential. It is therefore the examiners position that since the reference fails to mention any specific zeta potential (criticality), this (the absence of any such limitations) constitutes a broad teaching of this value, as long as the final composition is obtained. In view of this, it can be reasonably interpreted that the claimed values are encompassed by the broad teachings according to this reference in the absence of any evidence showing the contrary (criticality). In addition, since the zeta potential of the particles can mostly be negative, it can be reasonably expected that the zeta potential of the composition (with particles therein) can also be negative which is within the applicants range.

Claims 1-7, 9, 14-18, 20 and 25-27 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Yano et al. (545)

The reference teaches in the abstract and column 6, line 49-column 15, line 65, a polishing composition for polishing a substrate having a metal feature thereon, said composition comprising an aqueous solution, a polymeric abrasives (polymethyl methacrylate, etc.) and an oxidizing agent (peroxide, nitric acid, etc.). Two or more oxidizers can be used. Other components can be added. The polymeric abrasives have a zeta potential of the same sign and the claimed functionality.

The claimed invention is anticipated by the reference because the reference teaches a composition which comprises all of the claimed components. With respect to the repulsive force limitation of the instant claims, since the polymer particles are dispersed (not agglomerated) and

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have the same sign in the composition, it is the examiners position that the claimed repulsive force limitation is inherent (apparent) because the particles of the reference are not agglomerated but dispersed. With respect to the "ionic species" limitation, the components of the composition inherently provide this limitation. In the alternative, no patentable distinction is seen to exist between the reference and the claimed invention absent evidence to the contrary.

Claims 8, 10-13, 19, 21-24 are rejected under 35 U.S.C. 103(a) as obvious over Yano et al. (545) in view of Small et al. (039) or Small et al. (024).

With respect to the use of hydroxylamine nitrate, as the oxidizer (claims 8 and 19), this limitation would have been obvious because both Small et al. references teach that this is a well known oxidizing agent and the substitution of one oxidizer for another would have been well within the level of ordinary skill in the art. In addition, the primary reference states that the oxidizer is a nitric compound and the broad interpretation of this encompasses and therefore makes obvious hydroxylamine nitrate because **"A generic disclosure renders a claimed species prima facie obvious. *Ex parte George* 21 USPQ 2d 1057, 1060 (BPAI 1991); *In re Woodruff* 16 USPQ 2d 1934; *Merk & Co. v. Biocraft Lab. Inc.* 10 USPQ 2d 1843 (Fed. Cir. 1983); *In re Susi* 169 USPQ 423 (CCPA 1971)".** With respect to the limitations of claims 10-13 and 21-24 (pH and zeta potential), although the reference does not literally define these, this does not preclude the material of the reference from having the claimed values since all compositions must have a pH and a zeta potential (when solids are present). It is therefore the examiners position that since the reference fails to mention any specific pH or zeta potential (criticality), this (the absence of any such limitations) constitutes a broad teaching of these values, as long as

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the final composition is obtained. In view of this, it can be reasonably interpreted that the claimed values are encompassed by the broad teachings according to this reference in the absence of any evidence showing the contrary (criticality). In addition, since the zeta potential of the particles can mostly be negative, it can be reasonably expected that the zeta potential of the composition (with particles therein) can also be negative which is within the applicants range.

Claims 1-9, 12-20 and 23-27 are rejected under 35 U.S.C. 102(a or e) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Small et al. (024).

The reference teaches in sections [0022]-[0084], a polishing composition (having the claimed pH) for polishing a substrate having a metal feature thereon, said composition comprising an aqueous solution, a polymeric abrasives (polymethyl methacrylate, etc.) and an oxidizing agent (combination of hydroxylamine and nitric acid to form hydroxylamine nitrate). Nitric acid can also be added to the composition for other purposes. Other components can be added.

The claimed invention is anticipated by the reference because the reference teaches a composition which comprises all of the claimed components. With respect to the repulsive force limitation of the instant claims, since the polymer particles are dispersed (not agglomerated) and have the same sign in the composition, it is the examiners position that the claimed repulsive force limitation is inherent (apparent) because the particles of the reference are not agglomerated but dispersed. With respect to the "ionic species" limitation, the components of the composition inherently provide this limitation. With respect to the limitations of claims 4 and 17, it is the

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examiners position that one of the claimed functionalities is an inherent property of the polymeric particles of the reference absent evidence to the contrary. In the alternative, no patentable distinction is seen to exist between the reference and the claimed invention absent evidence to the contrary.

Claims 4, 10-11, 17 and 21-22 are rejected under 35 U.S.C. 103(a) as obvious over Small et al. (024).

With respect to the limitations of claims 4 and 17, it is the examiners position that the polymers defined by the primary reference can include polymers that have a functionality selected from the claimed groups absent evidence to the contrary. In addition, the primary reference states that polymers particles are used and the broad interpretation of this encompasses and therefore makes obvious ones with the claimed functionality because **"A generic disclosure renders a claimed species prima facie obvious. *Ex parte George* 21 USPQ 2d 1057, 1060 (BPAI 1991); *In re Woodruff* 16 USPQ 2d 1934; *Merk & Co. v. Biocraft Lab. Inc.* 10 USPQ 2d 1843 (Fed. Cir. 1983); *In re Susi* 169 USPQ 423 (CCPA 1971)".** With respect to the limitations of claims 10, 11, 21 and 22 (zeta potential), although the reference does not literally define this, this does not preclude the material of the reference from having the claimed values since all compositions (with solids) must have a zeta potential. It is therefore the examiners position that since the reference fails to mention any specific zeta potential (criticality), this (the absence of any such limitations) constitutes a broad teaching of this value, as long as the final composition is obtained. In view of this, it can be reasonably interpreted that the claimed values

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are encompassed by the broad teachings according to this reference in the absence of any evidence showing the contrary (criticality).

Claims 1-7, 12-18 and 23-31 are rejected under 35 U.S.C. 102(a or e) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Ma et al.

The reference teaches in the abstract, sections [0029]-[0034], [0046]-[0065], a polishing composition (having the claimed pH) for polishing a substrate having a metal feature thereon, said composition comprising an aqueous solution, a polymeric abrasives (polymethyl methacrylate, etc.) and an oxidizing agent (peroxide, nitric acid, etc.). Other components can be added. The abrasives are coated with a surfactant or polyelectrolyte prior to be incorporated into the slurry. The surfactant imparts surface charges to the particles that result in steric repulsion forces among the particles.

The claimed invention is anticipated by the reference because the reference teaches a composition which comprises all of the claimed components. With respect to the repulsive force limitation of the instant claims, it is stated that the surfactant imparts surface charges to the particles that result in steric repulsion forces among the particles. With respect to the “ionic species” limitation, the components of the composition inherently provide this limitation. With respect to the limitations of claims 4 and 17, it is the examiners position that one of the claimed functionalities is an inherent property of the polymeric particles of the reference absent evidence to the contrary. Finally, with respect to the method of making the composition, the reference states that the abrasives are coated with a surfactant or polyelectrolyte prior to be incorporated into the slurry. This reads on the claimed method of imparting an electrostatic charge. In the

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alternative, no patentable distinction is seen to exist between the reference and the claimed invention absent evidence to the contrary.

Claims 4, 8-11, 17 and 19-22 are rejected under 35 U.S.C. 103(a) as obvious over Ma et al. in view of Small et al. (039) or Small et al. (024).

With respect to the limitations of claims 4 and 17, it is the examiners position that the polymers defined by the primary reference can include polymers that have a functionality selected from the claimed groups absent evidence to the contrary. In addition, the primary reference states that polymers particles are used and the broad interpretation of this encompasses and therefore makes obvious ones with the claimed functionality because **"A generic disclosure renders a claimed species prima facie obvious. *Ex parte George* 21 USPQ 2d 1057, 1060 (BPAI 1991); *In re Woodruff* 16 USPQ 2d 1934; *Merk & Co. v. Biocraft Lab. Inc.* 10 USPQ 2d 1843 (Fed. Cir. 1983); *In re Susi* 169 USPQ 423 (CCPA 1971)".** With respect to the use of hydroxylamine nitrate, as the oxidizer (claims 8 and 19), this limitation would have been obvious because both Small et al. references teach that this is a well known oxidizing agent and the substitution of one oxidizer for another would have been well within the level of ordinary skill in the art. In addition, the primary reference states that the oxidizer is a nitric compound and the broad interpretation of this encompasses and therefore makes obvious hydroxylamine nitrate because **"A generic disclosure renders a claimed species prima facie obvious. *Ex parte George* 21 USPQ 2d 1057, 1060 (BPAI 1991); *In re Woodruff* 16 USPQ 2d 1934; *Merk & Co. v. Biocraft Lab. Inc.* 10 USPQ 2d 1843 (Fed. Cir. 1983); *In re Susi* 169 USPQ 423 (CCPA 1971)".** With respect to the combination of oxidizers (claims 9 and 20), it is prima facie obvious



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to combine two or more materials (oxidizers) disclosed by the prior art to form a third material (combination of oxidizers) that is to be used for the same purpose. In re Kerkhoven 205 USPQ 1069. With respect to the limitations of claims 10, 11, 21 and 22 (zeta potential), although the reference does not literally define this, this does not preclude the material of the reference from having the claimed values since all compositions (with solids) must have a zeta potential. It is therefore the examiners position that since the reference fails to mention any specific zeta potential (criticality), this (the absence of any such limitations) constitutes a broad teaching of this value, as long as the final composition is obtained. In view of this, it can be reasonably interpreted that the claimed values are encompassed by the broad teachings according to this reference in the absence of any evidence showing the contrary (criticality).

**Although some of the references might teach abrasive composites, the language “ an abrasive comprising” opens the claims to other abrasive in combination (i.e. composites).**

In view of the teachings as set forth above, it is the examiners position that the references reasonably teach or suggest the limitations of the rejected claims.

**“A reference is good not only for what it teaches but also for what one of ordinary skill might reasonably infer from the teachings. *In re Opprecht* 12 USPQ 2d 1235, 1236 (CAFC 1989); *In re Bode* USPQ 12; *In re Lamberti* 192 USPQ 278; *In re Bozek* 163 USPQ 545, 549 (CCPA 1969); *In re Van Mater* 144 USPQ 421; *In re Jacoby* 135 USPQ 317; *In re LeGrice* 133 USPQ 365; *In re Preda* 159 USPQ 342 (CCPA 1968)”. In addition, “A**

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reference can be used for all it realistically teaches and is not limited to the disclosure in its preferred embodiments" See *In re Van Marter*, 144 USPQ 421.

"A generic disclosure renders a claimed species prima facie obvious. *Ex parte George* 21 USPQ 2d 1057, 1060 (BPAI 1991); *In re Woodruff* 16 USPQ 2d 1934; *Merk & Co. v. Biocraft Lab. Inc.* 10 USPQ 2d 1843 (Fed. Cir. 1983); *In re Susi* 169 USPQ 423 (CCPA 1971)".

The subject matter as a whole would have been obvious to one having ordinary skill in the art at the time the invention was made to have selected the overlapping portion of the range disclosed by the reference because overlapping ranges have been held to be a prima facie case of obviousness, see *In re Malagari*, 182 U.S.P.Q. 549; *In re Wertheim* 191 USPQ 90 (CCPA 1976)".

Applicants use process limitations to define the product and "product-by-process" claims do not patentably distinguish the product even though made by a different process. *In re Thorpe* 227 USPQ 964.

Evidence of unexpected results must be clear and convincing. *In re Lohr* 137 USPQ 548. Evidence of unexpected results must be commensurate in scope with the subject matter claimed. *In re Linder* 173 USPQ 356.

The references cited on the 1449 have been reviewed by the examiner and are considered to be art of interest since they are cumulative to or less than the art relied upon in the above rejections.

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Any foreign language documents submitted by applicant has been considered to the extent of the short explanation of significance, English abstract or English equivalent, if appropriate.

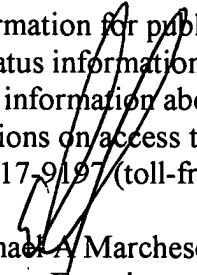
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael A Marcheschi whose telephone number is (571) 272-1374. The examiner can normally be reached on M-F (8:00-5:30) First Friday Off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark L Bell can be reached on (571) 272-1362. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

1/25/05

MM

  
Michael A Marcheschi  
Primary Examiner  
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